

Algebra 1
Unit 8 Test
Form A

Name: _____

Period: _____ Date: _____

Simplify the expression.

1. $x^3 \cdot x^6$	2. $(3a^2)(4a^3)$	3. $(5a^4b^2)(2ab^3)$
4. $(-4x^2z^8)(5x^3z^2)$	5. $(k^3)^4$	6. $(rw)^2$
7. $(3w^7v^3)^2$	8. $(-10x^2y^5)^2$	

Simplify the expression. Use only positive exponents.

9. 2^{-3}	10. $\frac{3y^{-2}}{2}$	11. $5x^{-3} \cdot -4y^2$
12. $(5x^{-2})^3$	13. $(5a^7bc^9)^0$	14. $(5a^3b^4)^{-2}$

Simplify the expression. Use only positive exponents.

15. $\frac{A^8}{A^5}$	16. $\frac{m^9 n^3}{m^8 n^7}$	17. $\frac{16x^{-5}y^9}{x^3y^4}$
18. $\frac{5x^4y^3}{10x^2y^5} \cdot \frac{3x^7y^9}{y^2}$	19. $\frac{3x^2y}{4x^3y^2} \cdot \frac{8x^{-3}y^5}{3x^{-5}y}$	

Rewrite the number in decimal form.

20. 6.15×10^2

21. 7.15×10^{-3}

Rewrite the number in scientific notation.

22. 320,000

23. 0.0000159

Evaluate the expression and write the answer in scientific notation.

24. $(4 \times 10^5) \cdot (1.2 \times 10^7)$

25. $\frac{8 \times 10^{23}}{2 \times 10^{16}}$

Use the Compounded Interest Formula to help you solve the following problems.

$$a = P \left(1 + \frac{r}{n} \right)^{nt}$$

26. You deposit \$6,000 in an account that earns 3% annual interest. Find the balance after 3 years if the interest is compounded annually.

27. You deposit \$500 in an account that earns 7% annual interest. Find the balance after 10 years if the interest is compounded annually.

28. You deposit \$1,100 in an account that earns 10% annual interest. Find the balance after 4 years if the interest compounded monthly.